



Sustainability Reporting Frameworks and their Pollution-Related Requirements

Partners for Pollution
Prevention
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+ Introductions

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+ Agenda

■ Sustainability Reporting Frameworks

- Why? Who? How?

■ Waste GRI

- 301: Materials
- 303: Water and Effluents
- 305: Emissions
- 306: Effluents and Waste

■ Waste CDP

- Climate Change
- Water Security
- Supply Chain

■ Waste SASB

■ Alignment of Frameworks

■ Key Takeaways & Lessons Learned



+ Sustainability Reporting

Why Report?

- Be the one to tell your story or someone else (Competitors NGOs, Ratings Providers,) will tell it for you.
- Market Drivers for Reporting (investors, government regulation, stock market listing requirements, employees)
- Fewer tangible assets requires non-financial reporting.

Who Should Report?

- If you have Investors
- If you have Customers
- If you are part of a Supply Chain

How Should you Report?

- It depends...



+ Reporting Frameworks



- **GRI's** process begins with broad Stakeholder identification and engagement which informs a Materiality Assessment that determines what should be reported. Reports using GRI Standards can be voluntary or required by EU NFR or various stock exchanges around the world.

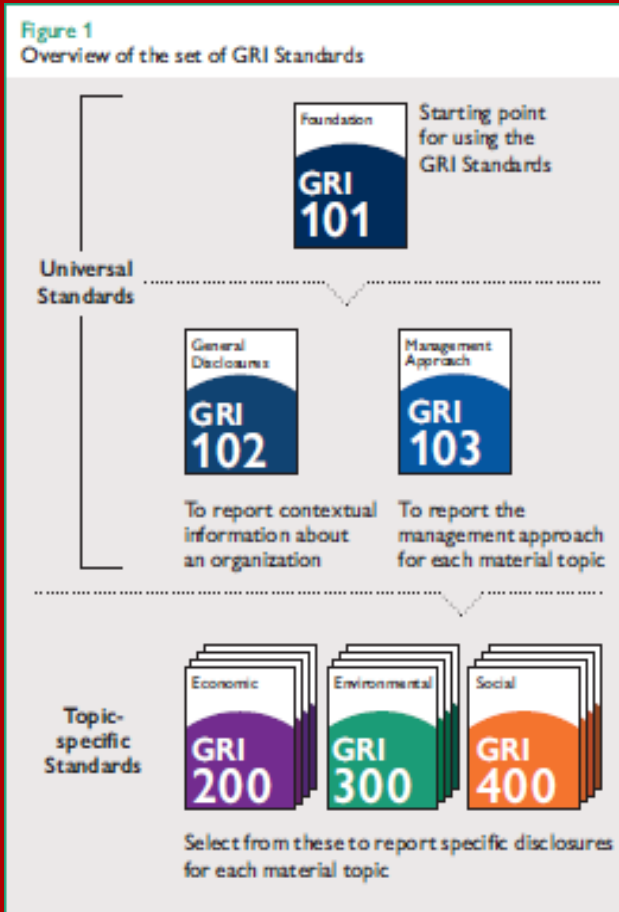


- **CDP's** members – mostly investors - request detailed information about companies by way of climate change, water security, forestry and supply chain questionnaires. Disclosures are scored and grades are given, annually.



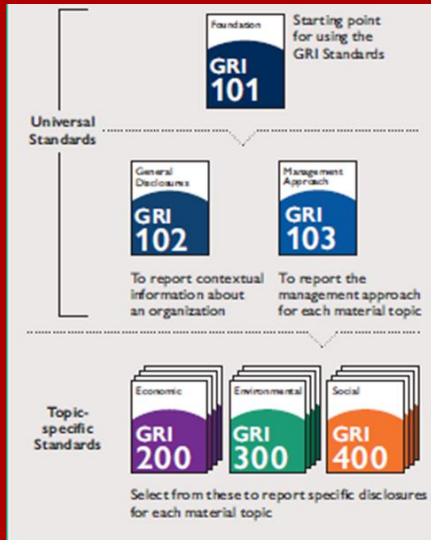
- **SASB's** newly finalized sector-based Standards provide a reporting framework for incorporating sustainability data into financial disclosures to better inform investors with “decision useful” information.

+ GRI Overview



- The **GRI Standards** are structured as a set of interrelated modules designed to be used by organizations to publicly report their impacts on the economy, environment, and society.
- There are three universal Standards that apply to every organization preparing a sustainability report:
 - *GRI 101: Foundation*
 - *GRI 102: General Disclosures*
 - *GRI 103: Management Approach*
- The 33 topic-specific GRI Standards are organized into three series:
 - *200 (Economic topics)*
 - *300 (Environmental topics)*
 - *400 (Social topics)*

+ GRI Reporting Approaches



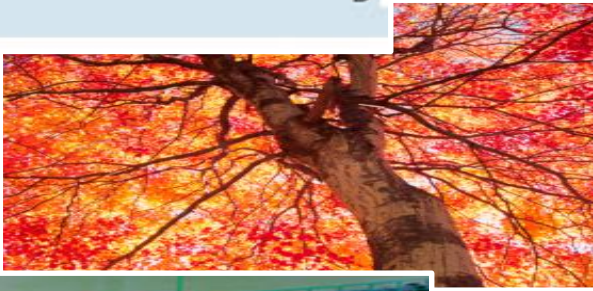
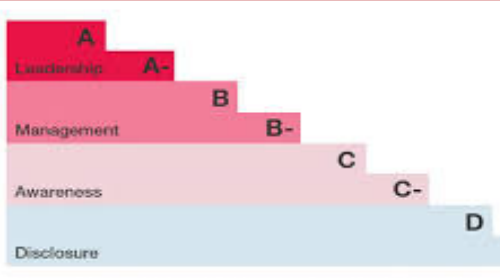
Approach 1

- Starting point - **GRI 101: Foundations**, explains how to use & reference the Standards in order to create report in alignment with the GRI Standards.
- **102: General Disclosure**, provides information on an organization which can be answered in two ways, (core or comprehensive) depending on the amount of information a company wants to disclose.
- Option to utilize **GRI 103: Management Approach**, which allows companies to report on how they manage their material topics.
- Option to choose any of the topic-specific standards from Series 200, 300, & 400, depending on what is most relevant to the reporting organization.

Approach 2

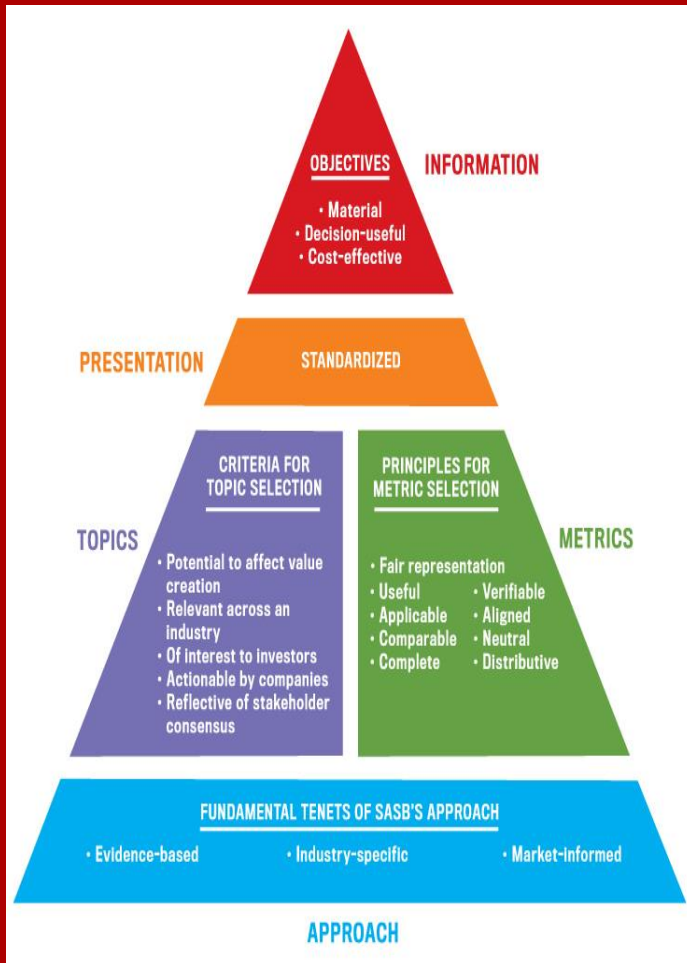
- Select GRI Standard content can be used to report on specific information, without preparing a report up to GRI Standards.

+ CDP Overview



- **CDP**, formerly known as the Carbon Disclosure Project, is a global disclosure system that allows companies, cities, and states to measure and manage their environmental impacts.
- Investors request environmental information through CDP, which allows CDP to ask companies and suppliers to provide data on their environmental risks, opportunities, investments, and strategies.
- There are 3 questionnaires that organizations may be requested to complete:
 - Climate Change
 - Forests
 - Water Security
- CDP scores questionnaires on levels of disclosure, awareness, management, and leadership. The score produced correlates to a letter grade which is publicly assigned to the reporting organization.

+ SASB Overview



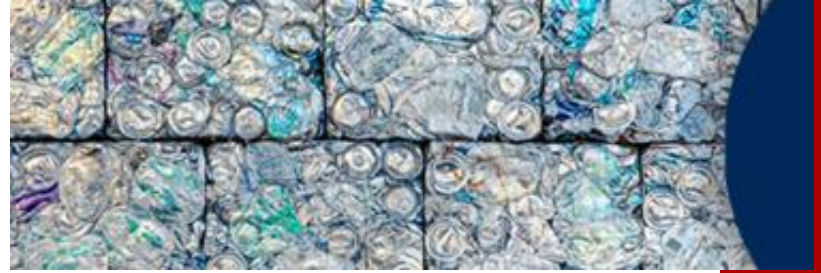
- **Sustainability Accounting Standards Board (SASB)** developed a set of 77 globally accepted industry standards that identify the minimal set of financially material sustainability topics & associated metrics for the typical company in the industry.
- Sustainability accounting reflects the management of a corporation's environmental and social impacts arising from production of goods and services, as well as its management of the environmental and social capitals necessary to create long-term value.
- The analysis of sustainability challenges on innovation, business models, and corporate governance are also accounted for.
- SASB sustainability topics are organized under five broad dimensions:
 - Environment
 - Social Capital
 - Human Capital
 - Business Model and Innovation
 - Leadership and Governance



+ Waste in GRI Reporting



GRI 301: Materials



Background:

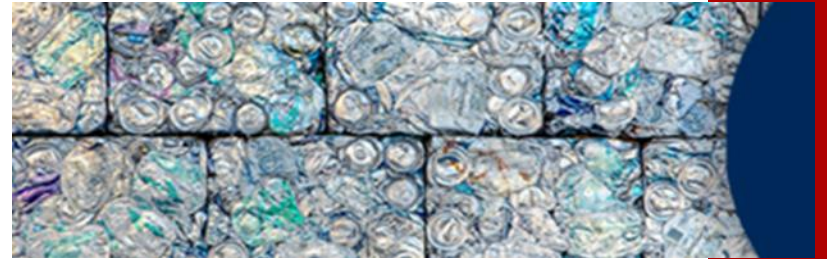
The type and amount of materials an organization uses can indicate its dependence on natural resources & the impacts on their availability. The organization's contribution to resource conservation can be indicated by its approach to recycling, reusing and reclaiming materials, products, and packaging. The disclosures in this Standard can provide information about an organization's impacts related to materials, and how it manages these impacts.

Where does waste fit in?

- Management Approach Disclosures:
 - Disclosure 301-2: **Recycled input materials used**
 - Disclosure 301-3: **Reclaimed products & their packaging materials**

+ GRI 301: Materials

Disclosure 301-2: Recycled input materials used



Reporting requirements

The reporting organization shall report the following information:

- a. Percentage of recycled input materials used to manufacture the organization's primary products and services.

2.2 When compiling the information specified in Disclosure 301-2, the reporting organization shall:

2.2.1 use the total weight or volume of materials used as specified in Disclosure 301-1;

2.2.2 calculate the percentage of recycled input materials used by applying the following formula:

$$\text{Percentage of recycled input materials used} = \frac{\text{Total recycled input materials used}}{\text{Total input materials used}} \times 100$$

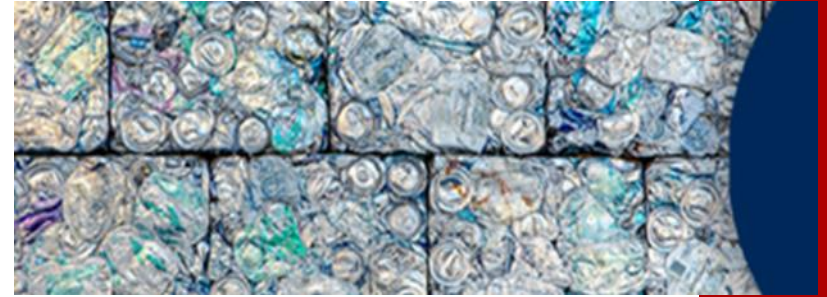
Reporting recommendations

- 2.3 When compiling the information specified in Disclosure 301-2, the reporting organization should, if estimation is required, report the methods used.

+ GRI 301: Materials

Disclosure 301-3:

Reclaimed products and their packaging materials



Reporting requirements

The reporting organization shall report the following information:

- a. Percentage of reclaimed products and their packaging materials for each product category.
- b. How the data for this disclosure have been collected.

2.4 When compiling the information specified in Disclosure 301-3, the reporting organization shall:

- 2.4.1 exclude rejects and recalls of products;
- 2.4.2 calculate the percentage of reclaimed products and their packaging materials for each product category using the following formula:

$$\text{Percentage of reclaimed products and their packaging materials} = \frac{\text{Products and their packaging materials reclaimed within the reporting period}}{\text{Products sold within the reporting period}} \times 100$$

+ GRI 303: Water & Effluents

Background:

GRI 303 is a holistic framework for measuring water use and the associated impacts in direct operations and across the value chain, with emphasis on context based metrics & areas with water stress.

Where does waste fit in?

- Management Approach Disclosures:
 - Disclosure 303-2: **Management of water discharge-related impacts**
- Topic-specific disclosures:
 - Disclosure 303-4: **Water Discharge**



+ GRI 303: Water & Effluents

Disclosure 303-2:

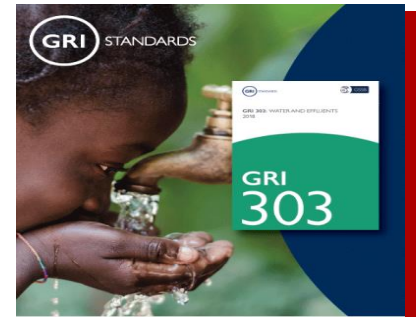
Management of water discharge-related impacts

- Asks organizations to disclose narrative information about how it manages impacts related to water discharge

Reporting requirements

The reporting organization shall report the following information:

- A description of any minimum standards set for the quality of effluent discharge, and how these minimum standards were determined, including:
 - how standards for facilities operating in locations with no local discharge requirements were determined;
 - any internally developed water quality standards or guidelines;
 - any sector-specific standards considered;
 - whether the profile of the receiving waterbody was considered.



+ GRI 303: Water & Effluents

Disclosure 303-4: Water Discharge



Reporting requirements

The reporting organization shall report the following information:

- a. Total water discharge to all areas in megaliters, and a breakdown of this total by the following types of destination, if applicable:
 - i. Surface water;
 - ii. Groundwater;
 - iii. Seawater;
 - iv. Third-party water, and the volume of this total sent for use to other organizations, if applicable.
- b. A breakdown of total water discharge to all areas in megaliters by the following categories:
 - i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids);
 - ii. Other water ($> 1,000$ mg/L Total Dissolved Solids).
- c. Total water discharge to all areas with water stress in megaliters, and a breakdown of this total by the following categories:
 - i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids);
 - ii. Other water ($> 1,000$ mg/L Total Dissolved Solids).
- d. Priority substances of concern for which discharges are treated, including:
 - i. how priority substances of concern were defined, and any international standard, authoritative list, or criteria used;
 - ii. the approach for setting discharge limits for priority substances of concern;
 - iii. number of incidents of non-compliance with discharge limits.
- e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.

+ GRI 303: Water & Effluents

Disclosure 303-4: **Water Discharge**



Reporting recommendations

2.4 The reporting organization should report the following additional information:

2.4.1 The number of occasions on which discharge limits were exceeded;

2.4.2 A breakdown of total water discharge to all areas in megaliters by level of treatment, and how the treatment levels were determined;

2.4.3 Percentage of suppliers with significant water-related impacts from water discharge that have set minimum standards for the quality of their effluent discharge.

Importance

- Quantifying the volume of water discharge can help an organization understand its negative impacts on the receiving waterbody.
- Reporting water discharge by level of treatment can provide insight into the effort an organization is making to improve the quality of its water discharge. When reporting how the treatment levels were determined, the organization is expected to include the reasons why a certain level of treatment was set.

+ GRI 305: Emissions



Background

- GRI 305 addresses the discharge of substances from a source into the atmosphere. GHG emissions are a major contributor to climate change & are governed by the United Nations (UN) 'Framework Convention on Climate Change' & the subsequent UN 'Kyoto Protocol'
- Reductions in the emissions of regulated pollutants lead to improved health conditions for workers, local communities, and can enhance relations with affected stakeholders.

Where does waste fit in?

Management approach disclosures:

- When reporting on GHG emissions targets, the reporting organization shall explain whether offsets were used to meet the targets, including the type, amount, criteria or scheme of which the offsets are part.
- *Guidance:* When reporting management approach for emissions, the reporting organization can also:
 - Explain whether it is subject to any country, regional, or industry-level emissions regulations & policies; and provide examples of these regulations and policies;
 - Disclose expenditures on treatment of emissions & for the purchase & use of emissions certificates.

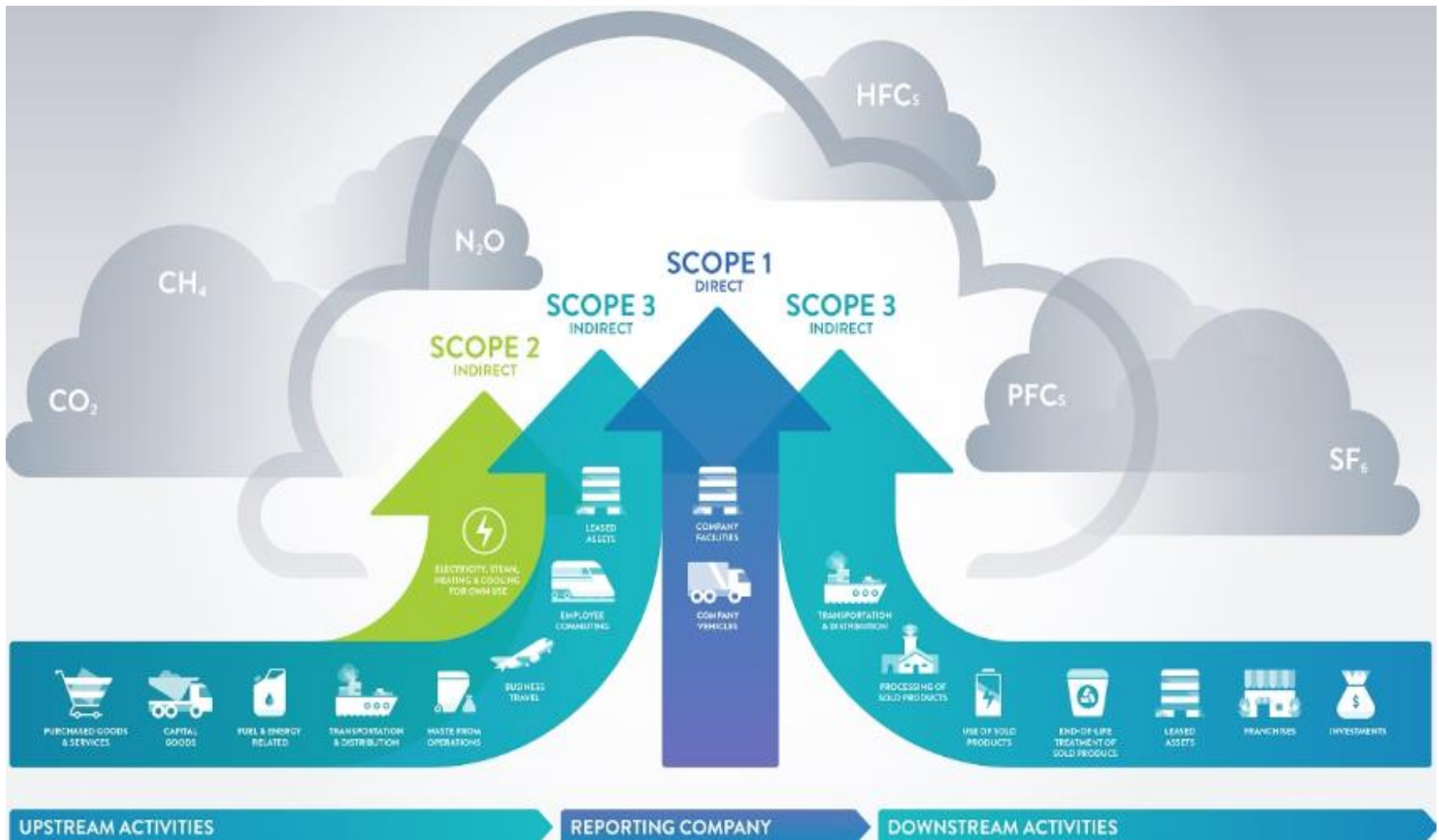


GRI 305: Emissions

Topic specific disclosures:

- Disclosure 305-1: **Direct (Scope 1) GHG emissions**
 - Disclosure 305-2: **Energy indirect (Scope 2) GHG emissions**
 - Disclosure 305-3: **Other indirect (Scope 3) GHG emissions**
 - Disclosure 305-4: **GHG emissions intensity**
 - Disclosure 305-5: **Reduction of GHG emissions**
 - Disclosure 305-6: **Emissions of ozone-depleting substances (ODS)**
 - Disclosure 305-7: **Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions**
- Some GHGs are also air pollutants that have significant adverse impacts on ecosystems, air quality, agriculture, & human/animal health.
 - Different national and international regulations and incentive systems, such as emissions trading, aim to control the volume and reward the reduction of GHG emissions.
 - The reporting requirements for GHG emissions in this Standard are based on the requirements of the GHG Protocol Corporate Standard & the GHG Protocol Corporate Value Chain Standard. These two standards are part of the GHG Protocol developed by the World Resources Institute (WRI) and the World Business Council on Sustainable Development (WBCSD).





Direct (Scope 1) Emissions: Within company's organizational boundary from sources that company owns or controls.

Scope 2: Purchased electricity, steam, heating, and cooling.

Indirect (Scope 3) Emissions: Related to company's activities but come from sources owned or controlled by another company.

+ GRI 305: Emissions



Disclosure 305-1: **Direct (Scope 1) GHG emissions**

Disclosure 305-2: **Energy indirect (Scope 2) GHG emissions**

Disclosure 305-3: **Other indirect (Scope 3) GHG emissions**

Reporting requirements

The reporting organization shall report the following information:

- a. Gross direct (Scope 1) GHG emissions in metric tons of CO₂ equivalent.
- b. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.
- c. Biogenic CO₂ emissions in metric tons of CO₂ equivalent.
- d. Base year for the calculation, if applicable, including:
 - i. the rationale for choosing it;
 - ii. emissions in the base year;
 - iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.
- e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.
- f. Consolidation approach for emissions; whether equity share, financial control, or operational control.
- g. Standards, methodologies, assumptions, and/or calculation tools used.

Topic specific disclosure helpful hints:

■ Disclosure 305-1: **Direct (Scope 1) GHG emissions**

2.1 When compiling the information specified in Disclosure 305-1, the reporting organization shall:

- 2.1.1 exclude any GHG trades from the calculation of gross direct (Scope 1) GHG emissions;
- 2.1.2 report biogenic emissions of CO₂ from the combustion or biodegradation of biomass separately from the gross direct (Scope 1) GHG emissions. Exclude biogenic emissions of other types of GHG (such as CH₄ and N₂O), and biogenic emissions of CO₂ that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass).

■ Disclosure 305-2: **Energy indirect (Scope 2) GHG emissions**

- 2.3.2 exclude other indirect (Scope 3) GHG emissions that are disclosed as specified in Disclosure 305-3;
- 2.3.3 account and report energy indirect (Scope 2) GHG emissions based on the location-based method, if it has operations in markets without product or supplier-specific data;
- 2.3.4 account and report energy indirect (Scope 2) GHG emissions based on both the location-based and market-based methods, if it has any operations in markets providing product or supplier-specific data in the form of contractual instruments.

■ Disclosure 305-3: **Other indirect (Scope 3) GHG emissions**

- 2.5.2 exclude energy indirect (Scope 2) GHG emissions from this disclosure. Energy indirect (Scope 2) GHG emissions are disclosed as specified in Disclosure 305-2;
- 2.5.3 report biogenic emissions of CO₂ from the combustion or biodegradation of biomass that occur in its value chain separately from the gross other indirect (Scope 3) GHG emissions. Exclude biogenic emissions of other types of GHG (such as CH₄ and N₂O), and biogenic emissions of CO₂ that occur in the life cycle of biomass other than from combustion or biodegradation (such as GHG emissions from processing or transporting biomass).

+ GRI 305: Emissions

Disclosure 305-4: **GHG emissions intensity** –

Intensity ratios define GHG emissions through an organization-specific metric. GHG emissions intensity expresses the amount of GHG emissions per unit of activity.

Reporting requirements

The reporting organization shall report the following information:

- a. GHG emissions intensity ratio for the organization.
- b. Organization-specific metric (the denominator) chosen to calculate the ratio.
- c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).
- d. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.

2.7 When compiling the information specified in Disclosure 305-4, the reporting organization shall:

- 2.7.1 calculate the ratio by dividing the absolute GHG emissions (the numerator) by the organization-specific metric (the denominator);
- 2.7.2 if reporting an intensity ratio for other indirect (Scope 3) GHG emissions, report this intensity ratio separately from the intensity ratios for direct (Scope 1) and energy indirect (Scope 2) emissions.



Intensity ratios can be provided for, among others: (Metric tons of CO₂ emissions)

- Products (per unit produced)
- Services (per function or service)
- Sales (per sales)

Organization-specific metrics can include:

- Units of product
- Production volume (metric tons, liters, or MWh)
- Size (m² floor space)
- Number of full-time employees
- Monetary units (revenue or sales)

+ GRI 305: Emissions

Disclosure 305-5:

Reduction of GHG emissions



Reporting requirements

The reporting organization shall report the following information:

- a. GHG emissions reduced as a direct result of reduction initiatives, in metric tons of CO₂ equivalent.
- b. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.
- c. Base year or baseline, including the rationale for choosing it.
- d. Scopes in which reductions took place; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).
- e. Standards, methodologies, assumptions, and/or calculation tools used.

2.9 When compiling the information specified in Disclosure 305-5, the reporting organization shall:

- 2.9.1 exclude reductions resulting from reduced production capacity or outsourcing;
- 2.9.2 use the inventory or project method to account for reductions;
- 2.9.3 calculate an initiative's total reductions of GHG emissions as the sum of its associated primary effects and any significant secondary effects;
- 2.9.4 if reporting two or more Scope types, report the reductions for each separately;
- 2.9.5 report reductions from offsets separately.

+ GRI 305: Emissions

Disclosure 305-6: **Emissions of ozone-depleting substances (ODS)**

Measures ODS production, imports, and exports. Helps indicate how an organization complies with legislation.

Reporting requirements

The reporting organization shall report the following information:

- a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent.
- b. Substances included in the calculation.
- c. Source of the emission factors used.
- d. Standards, methodologies, assumptions, and/or calculation tools used.

2.11 When compiling the information specified in Disclosure 305-6, the reporting organization shall:

- 2.11.1 calculate the production of ODS as the amount of ODS produced, minus the amount destroyed by approved technologies, and minus the amount entirely used as feedstock in the manufacture of other chemicals;

$$\begin{array}{r} \text{Production of ODS} \\ = \\ \text{ODS produced} \\ - \\ \text{ODS destroyed by approved technologies} \\ - \\ \text{ODS entirely used as feedstock in the manufacture} \\ \text{of other chemicals} \end{array}$$

- 2.11.2 exclude ODS recycled and reused.

+ GRI 305: Emissions

Disclosure 305-7:

Nitrogen Oxides (NO_x), Sulfur Oxides (SO_x), & other significant air emissions



Reporting requirements

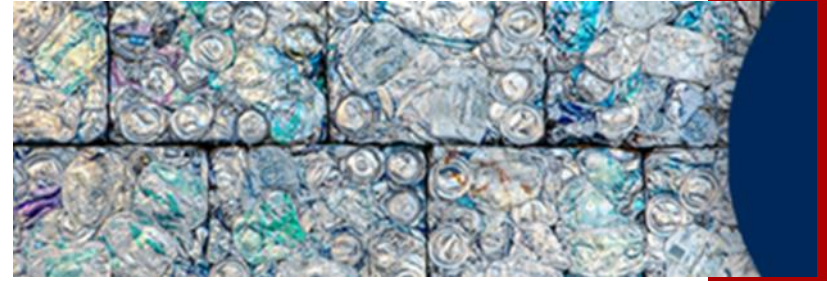
The reporting organization shall report the following information:

- a. Significant air emissions, in kilograms or multiples, for each of the following:
 - i. NO_x
 - ii. SO_x
 - iii. Persistent organic pollutants (POP)
 - iv. Volatile organic compounds (VOC)
 - v. Hazardous air pollutants (HAP)
 - vi. Particulate matter (PM)
 - vii. Other standard categories of air emissions identified in relevant regulations
- b. Source of the emission factors used.
- c. Standards, methodologies, assumptions, and/or calculation tools used.

2.13 When compiling the information specified in Disclosure 305-7, the reporting organization shall select one of the following approaches for calculating significant air emissions:

- 2.13.1 Direct measurement of emissions (such as online analyzers);
- 2.13.2 Calculation based on site-specific data;
- 2.13.3 Calculation based on published emission factors;
- 2.13.4 Estimation. If estimations are used due to a lack of default figures, the organization shall indicate the basis on which figures were estimated.

+ GRI 306: Effluents & Waste



Background:

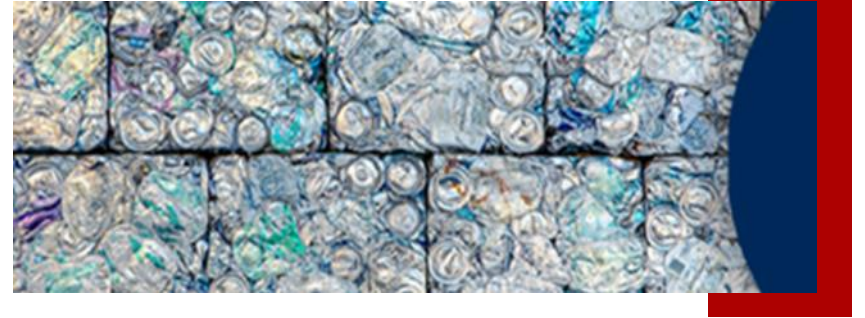
- The generation, treatment, & disposal of waste – including its improper transportation – pose harm to human health & the environment. This is of particular concern if waste is transported to countries lacking the infrastructure and regulations to handle it.
- **Aims to understand relationship between materials & waste** by analyzing how the use of materials affects the quantity & quality of waste.
- The disclosures in this Standard can **provide information about an organization's impacts related to effluents and waste, and how it manages these impacts.**

Where does waste fit in?

- Topic-specific disclosures:
 - Disclosure 306-2: **Waste by type & disposal method**
 - Disclosure 306-3: **Significant spills**
 - Disclosure 306-4: **Transport of hazardous waste**

+ GRI 306: Effluents

Disclosure 306-2: & Waste Waste by type and disposal method

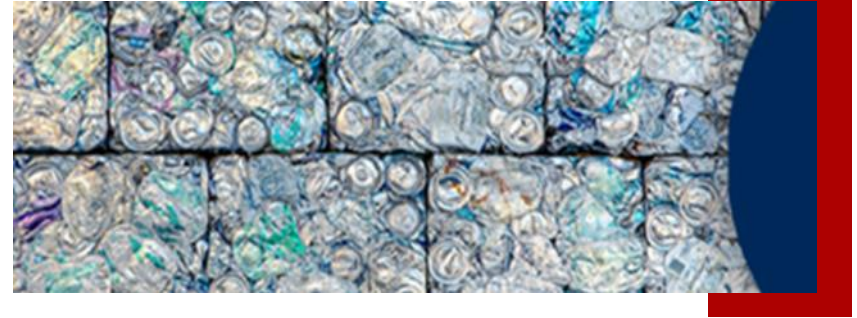


Reporting requirements

The reporting organization shall report the following information:

- a. Total weight of hazardous waste, with a breakdown by the following disposal methods where applicable:
 - i. Reuse
 - ii. Recycling
 - iii. Composting
 - iv. Recovery, including energy recovery
 - v. Incineration (mass burn)
 - vi. Deep well injection
 - vii. Landfill
 - viii. On-site storage
 - ix. Other (to be specified by the organization)
- b. Total weight of non-hazardous waste, with a breakdown by the following disposal methods where applicable:
 - i. Reuse
 - ii. Recycling
 - iii. Composting
 - iv. Recovery, including energy recovery
 - v. Incineration (mass burn)
 - vi. Deep well injection
 - vii. Landfill
 - viii. On-site storage
 - ix. Other (to be specified by the organization)
- c. How the waste disposal method has been determined:
 - i. Disposed of directly by the organization, or otherwise directly confirmed
 - ii. Information provided by the waste disposal contractor
 - iii. Organizational defaults of the waste disposal contractor

+ GRI 306: Effluents & Waste



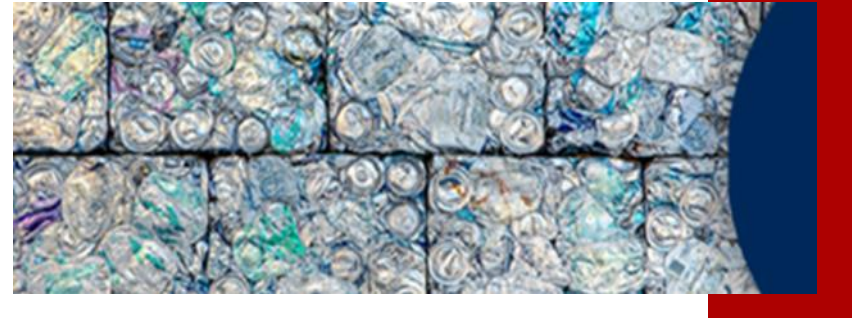
Disclosure 306-2:

Waste by type and disposal method

- 2.3 When compiling the information specified in Disclosure 306-2, the reporting organization shall:
 - 2.3.1 identify hazardous waste as defined by national legislation at the point of generation;
 - 2.3.2 exclude non-hazardous wastewater from the calculation of non-hazardous waste;
 - 2.3.3 if no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information.

Information about waste disposal methods reveals the extent to which an organization has managed the **balance between disposal options and uneven environmental impacts**. Most waste minimization strategies emphasize prioritizing options for reuse, recycling, and then recovery over other disposal options to minimize ecological impacts.

+ GRI 306: Effluents & Waste



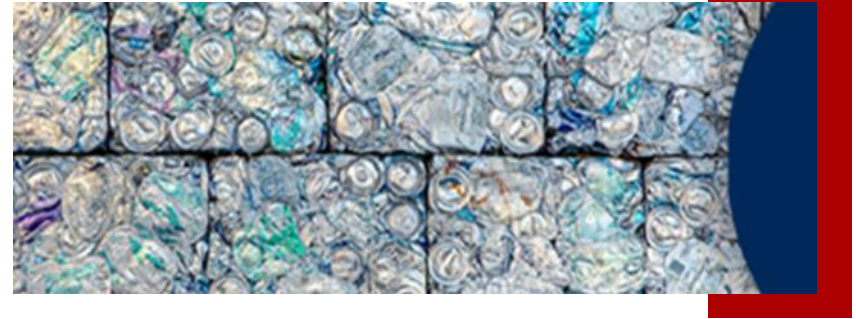
Disclosure 306-3: **Significant Spills**

Reporting requirements

The reporting organization shall report the following information:

- a. Total number and total volume of recorded significant spills.
- b. The following additional information for each spill that was reported in the organization's financial statements:
 - i. Location of spill;
 - ii. Volume of spill;
 - iii. Material of spill, categorized by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of wastes (soil or water surfaces), spills of chemicals (mostly soil or water surfaces), and other (to be specified by the organization).
- c. Impacts of significant spills.

+ GRI 306: Effluents & Waste



Disclosure 306-4:

Transport of hazardous waste

Reporting requirements

The reporting organization shall report the following information:

- a. Total weight for each of the following:
 - i. Hazardous waste transported
 - ii. Hazardous waste imported
 - iii. Hazardous waste exported
 - iv. Hazardous waste treated
- b. Percentage of hazardous waste shipped internationally.
- c. Standards, methodologies, and assumptions used.

Total weight of hazardous waste
transported by destination

=

Weight of hazardous waste transported to the
organization by destination from external sources/
suppliers not owned by the organization

+

Weight of hazardous waste transported from the
organization by destination to external sources/
suppliers not owned by the organization

+

Weight of hazardous waste transported nationally
and internationally by destination between locations
owned, leased, or managed by the organization

Trash Talk – Revision of Effluent-Related Content

Release Date: January 2020

Revision of the waste-related content in GRI 306 and 301 will align disclosures with recent developments and best practice waste management and reporting.



New Disclosures

- **306-1: Process flow of inputs and outputs**
- **306-2: Management of waste related impacts**
- **306-3: Waste Managed**

Disclosure Content Changes

- Recognizes the importance of the **transition to a circular economy**, to shift perception of waste from an 'unwanted burden' to a source of materials.
- **Updated reporting requirement on waste streams**, to understand if organizations generate or manage any critical waste streams.
- **Removed disclosure on the transport of hazardous waste**, as lacking essential contextual information necessary to assess the negative or positive impact of transboundary movement of waste.



+ Waste in CDP Reporting



CDP Climate Change

C4: Targets & Performance



(C4.1): Did you have an emissions target that was active in the reporting year?

Response Options:

- Absolute Target
- Intensity Target
- Both absolute & intensity targets
- No target

(C4.1a+b): Disclosure of details on the reporting organization's absolute or intensity emissions target(s) & the progress made against those targets:

- Scope
- % Emissions in scope
- % Reduction from base year
- Metric
- Base Year & Start Year
- Normalized base year emissions covered by target (metric tons CO₂e)
- Target Year
- Is this a science based target?
- % Achieved
- Target Status
- % Change anticipated in scope 1, 2, or 3 emissions

+ CDP Climate Change C4: Targets & Performance



(C4.2): Provide details of other key climate-related targets not already reported in question C4.1/a/b

Select from:

- Energy productivity
 - Renewable energy consumption
 - Renewable energy production
 - Renewable fuel
 - Waste
 - Zero/low-carbon vehicle
 - Energy usage
 - Land use
 - Methane reduction target
 - Engagement with suppliers
 - R&D investments
 - Other, please specify
- KPI – Metric Numerator & Denominator
 - Start Year/ Base Year
 - Target Year
 - KPI in baseline year
 - KPI in target year
 - % Achieved in reporting year
 - Target Status



CDP Climate Change C4: Targets & Performance



(C4.3): Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Response Options: Yes, No

(C4.3a): Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

Stages of Development	# of Projects	Total estimated annual CO ₂ e savings
Under Investigation	#	(In metric tons CO ₂ e)
To be implemented	#	#
Implementation commenced	#	#
Implemented	#	#

+ CDP Climate Change C4: Targets & Performance

(C4.3b): Provide details on the initiatives implemented in the reporting year in the table below.



Select from:

- Energy efficiency: Building fabric
- Energy efficiency: Building services
- Energy efficiency: Processes
- Fugitive emissions reductions
- Low-carbon energy purchase
- Low-carbon energy installation
- Process emissions reductions
- Other, please specify

- Description of activity
- Estimated annual CO2e savings
- Scope (1, 2 market or location based, 3)
- Voluntary or Mandatory
- Annual Monetary Savings
- Investment Required (currency)
- Payback Period (years)
- Estimated lifetime of the initiative

Sources of Scope 3 Emissions

Purchased goods & services

Capital goods

Fuel & energy related activities
(not including scope 1 or 2)

Upstream transportation &
distribution

Waste generated in operations

Business travel

Employee commuting

Upstream leased assets

Downstream transportation &
distribution

Processing of sold products

Use of sold products

End of life treatment of sold
products

Downstream leased assets

Franchises

Investments

CDP Climate Change

C6: Emission Data

(C6.5): Account for your organization's Scope 3 emissions disclosing and explaining any exclusions.

Other Information to Disclose:

- Evaluation Status
- Metric Tons CO₂e
- Emissions Calculation Methodology
- % of Emissions calculated using data obtained from suppliers or value chain partners

+ CDP Climate Change

C10: Verification



(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

Scope	Verification Status
Scope 1	Select from:
Scope 2	<ul style="list-style-type: none">• No emissions data provided• No 3rd party verification
Scope 3	<ul style="list-style-type: none">• 3rd party verification or assurance process in place

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or 2 emissions & attach the relevant statements.

(C10.1b) Further details on Scope 3 emissions.

Response:

- Scope
- Verification or assurance cycle in place (annual, biennial, triennial)
- Status in the current reporting year
- Type of verification or assurance
- Attach the statement
- Page/section reference
- Relevant Standard
- Proportion of reported emissions verified (%)

+ CDP Climate Change

C10: Verification



(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Response:

Disclosure module verification relates to:

- C0. Introduction
- C1. Governance
- C2. Risks and opportunities
- C3. Business Strategy
- C4. Targets and performance
- C5. Emissions performance
- C6. Emissions data
- C7. Emissions breakdown
- C8. Energy
- C9. Additional metrics
- C11. Carbon pricing
- C12. Engagement
- C13. Other land management
- C14. Sign off
- SC. Supply chain module

Data Verified:

- Year on year change in emissions (Scope 1)
- Year on year change in emissions (Scope 2)
- Year on year change in emissions (Scope 1 and 2)
- Year on year change in emissions (Scope 3)
- Year on year emissions intensity figure
- Financial or other base year data points used to set a science-based target
- Progress against emissions reduction target
- Change in Scope 1 emissions against a base year (not target related)
- Change in Scope 2 emissions against a base year (not target related)
- Change in Scope 3 emissions against a base year (not target related)
- Product footprint verification
- Emissions reduction activities
- Renewable energy products
- Don't know
- Other, please specify

CDP Water Security

W1: Company-Wide Water Accounting

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these compare to the previous reporting year.

Water Aspect	Volume	Comparison w/ previous reporting yr
Total Withdrawals	Numerical field (megaliters/ year)	Select from: Much lower, lower, about the same, higher, much higher, this is our first year of measurement
Total Discharges		
Total Consumption		

(W1.2i) Provide total water discharge data by destination.

Destination	Relevance	Volume	Comparison w/ previous reporting yr
Fresh Surface Water	Select from: Not relevant, Relevant, Relevant but volume unknown	Numerical field (megaliter/ year)	Select from: Much lower, lower, about the same, higher, much higher, this is our first year of measurement
Brackish Surface Water/ Seawater			
Groundwater			
3 rd Party Destinations			

CDP Water Security

W5: Facility-level water accounting

(W5.1) For each facility referenced, provide coordinates, total water accounting data, and comparisons with the previous reporting year.

- Facility Reference Number & Name
- Country/Region
- River Basin
- Latitude/ Longitude
- Total water consumption, withdraws & discharges (megaliters/year)
- Comparison of withdrawals with previous reporting year

(W5.1d) For each facility referenced, what proportion (%) of water accounting data has been externally verified.

- Water withdrawals – by total volumes, source, or quality
- Water Discharges – by total volumes, destination, or treatment method
- Water Consumption – total volume
- Water recycled/reused
- Water discharge quality - by standard effluent parameters, or temperature

+ CDP Supply Chain SC1:

Allocating your emissions to your customers

(SC1.1) Allocate your emissions to your customers according to the goods or services you have sold them in this reporting period.

Response:

- Scope of emissions (1, 2, 3)
 - Allocation Level
 - Company wide, business unit, facility, commodity
 - Requesting member
 - Emissions in metric tons of CO₂e
 - Uncertainty (+/-%)
 - Major sources of emissions
 - Verified (Y/N)
 - Explain how you identified GHG source including major limitations and assumptions made
- *Allocation Method*
 - Allocation not necessary due to type of primary data available
 - Allocation not necessary as secondary data used
 - Allocation based on mass of products purchased
 - Allocation based on the volume of products purchased
 - Allocation based on the energy content of products purchased
 - Allocation based on the chemical content of products purchased
 - Allocation based on the number of units purchased
 - Allocation based on area
 - Allocation based on another physical factor
 - Allocation based on the market value of products purchased
 - Other, please specify

+ CDP Supply Chain SC4: Product (goods & services) level data

(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.

Response:

- Name of good/service
- Scope
- Emissions at the lifecycle stage in kg CO₂e per unit
- Is this stage under your ownership or control
- Type of data used
 - (Primary, secondary, both)
- Data quality

■ Lifecycle stage

- Assembly
- Consumer use
- Cradle to gate
- Cradle to grave
- Distribution
- End of life/final disposal
- Energy/fuel
- Manufacturing
- Material acquisition
- Operation of premises
- Packaging
- Pre-processing processing
- Production
- Recycling
- Storage
- Transportation
- Waste
- Other, please specify



+ Waste in SASB Reporting

+ Disclosure of Sustainability Topics

For the Waste Management industry, SASB has identified the following sustainability disclosure topics:

- Greenhouse Gas Emissions
- Air Quality
- Fleet Fuel Management
- Management of Leachate & Hazardous Waste
- Workforce Health & Safety
- Labor Relations
- Recycling & Resource Recovery

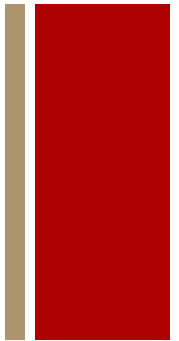
+ GHG & Air Quality



Greenhouse Gas Emissions	(1) Gross global Scope 1 emissions, (2) percentage covered under emissions-limiting regulation, and (3) percentage covered under emissions-reporting regulation
	Total landfill gas generated, percentage flared, percentage used for energy
	Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emission-reduction targets, and an analysis of performance against those targets
Air Quality	Air emissions of the following pollutants: NO _x (excluding N ₂ O), SO _x , non-methane volatile organic compounds (NMVOCs), and hazardous air pollutants (HAPs)
	Number of facilities in or near areas of dense population
	Number of incidents of non-compliance associated with air emissions



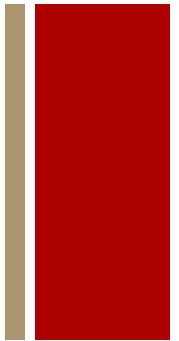
Fleet Fuel Management & Management of Leachate & Hazardous Waste



Fleet Fuel Management	Fleet fuel consumed, percentage renewable	Quantitative	Gigajoules, Percentage (%)
	Percentage of alternative energy vehicles in fleet	Quantitative	Percentage (%)
Management of Leachate & Hazardous Waste	Total Toxic Release Inventory (TRI) releases, percentage released to water	Quantitative	Metric tons (t), Percentage (%)
	Number of corrective actions implemented for landfill releases	Quantitative	Number
	Number of incidents of non-compliance associated with environmental impacts	Quantitative	Number



Workforce Health & Safety & Labor Relations




Workforce Health & Safety	(1) Total recordable injury rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees
	Safety Measurement System BASIC percentiles for: (1) Unsafe Driving, (2) Hours-of-Service Compliance, (3) Driver Fitness, (4) Controlled Substances/Alcohol, (5) Vehicle Maintenance, and (6) Hazardous Materials Compliance
	Number of vehicle accidents and incidents
Labor Relations	Percentage of active workforce covered under collective bargaining agreements
	Number and duration of strikes and lockouts ¹³



+ Alignment of Frameworks

+ Alignment of Frameworks

- All share an ambition to drive the reporting and use of data to inform decision making, and catalyze action towards creating social, environmental, and economic benefits for everyone.

CDP Water Security Questions	GRI Disclosures	Alignment
<p>W1.2b: Total volumes of water withdrawn, discharged, & consumed in operations.</p>	<p>303-4 Water Discharge:</p> 	<p>Explanatory information on water withdrawn, discharged, and consumed requested in W1.2b can be reported in GRI disclosures 303-3-d, 303-4-e, 303-5-d.</p>
<p>W1.2: Requests organizations to report volumes discharged to destinations, whether they're estimated, modelled, or sourced from direct measurements, and to report the estimation.</p>	<p>303-4 Water Discharge: Total water withdraw broken down into:</p> <ul style="list-style-type: none"> • Surface Water • Groundwater • Seawater • Produced Waste • Third Party Water 	<ul style="list-style-type: none"> • The figure for 'Fresh Surface Water' in W1.2 can be reported under disclosure 303-4-a-i. • The figure for 'Brackish Surface water/seawater' in W1.2 needs to be broken down into brackish surface water and seawater for Disclosure 303-4-a. • Figure for 'Groundwater' can be dual reported to Disclosure 303-4-a-ii • Figure for 'Third Party Destinations' can be reported under Disclosure 303-4-a-iv.

CDP Climate Change Questions	GRI Disclosures	Alignment
C6.5: Account for scope 3 emissions	305-3: Gross Scope 3 emissions	<ul style="list-style-type: none"> Under GRI, organizations are required to report the Scope 3 emissions categories and activities included in the calculation of the gross Scope 3 emissions under Disclosure 305-3 (d). CDP requests further details on whether each Scope 3 category is relevant, the emissions calculation methodology, and the percentage of Scope 3 emissions calculated using primary data.
C4.3: Emissions reduction initiatives	305-5: Reduction of GHG emissions	<ul style="list-style-type: none"> Disclosure 305-5 requires organizations to report the amount of GHG emissions reductions achieved as a direct result of initiatives to reduce emissions. Organizations are required to report, separately, reductions for Scope 1, Scope 2 and/or Scope 3. Under CDP, organizations are asked to identify the reasons for any change in the gross global emissions (Scope 1 & 2 combined) and Scope 3 emissions and attribute the change to the reason as a percentage. In addition to emissions reduction activities, reasons reported in Changes include reduction, increase or constancy in the amount of emissions compared to the previous year.

CDP Climate Change Questions	GRI Disclosures	Alignment
C6.1 & C6.2: Gross global Scope 1 & 2 emissions in metric tons CO ₂ e	305-1 & 305-2: Scope 1 & 2 GHG emissions	<ul style="list-style-type: none"> In addition to the base year and base year emissions, Disclosures 305-1 (d) and 305-2 (d) require the rationale for choosing the base year and the context for any significant changes in emissions that triggered recalculations of base year emissions.
C10.1: Indicate the verification/assurance status that applies to your reported emissions.	102-56(a,b-i): Description of current practice for seeking external assurance and reference the external statements	<ul style="list-style-type: none"> GRI requires organizations to provide information about external assurance for the sustainability report under Disclosure 102-56. CDP requests information on third party verification/assurance only. In addition, it requests further details of the third-party verification/assurance undertaken, such as the proportion of reported Scope 3 emissions verified, and it also requests that responders attach a copy of the verification statement to their response

+ Key Takeaways & Lessons Learned



Lessons Learned



Reporting that captures what matters

1. ***Circularity and waste prevention*** — Waste is complex but much of the opportunity to avoid its impact lies at the source of its creation.
2. ***Relationship between waste and materials*** — There is a greater emphasis on the connection between materials and waste. The aim is to build a more complete understanding of how procuring and using materials affects the nature and impact of waste generation and waste quality.
3. ***Impacts in the value chain*** — Reporting helps organizations look at their impacts in the value chain and report how they manage those impacts. Thus, identifying ways its management can be improved.
4. ***Criteria that acts as a compass for reporting*** — To capture what matters, organizations need strong guidance. These frameworks are designed to help companies understand key elements and information they need to make good decisions in the future.



Key Takeaways

- Key Point #1 – It is no longer enough for a company to just track statistics on how much waste they collected or their reduction of waste.
- Key Point #2 – The role of waste is changing as we shift to a circular economy, and its value is increasing. This means a radically new management approach to waste is necessary.
- Key Point #3 – Companies need suitable guidance from all frameworks to report on their activities, reflecting the transition to the circular economy.



+ Thank You!



Questions?

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